

Report: Two-Day Hands-On Workshop on Different Diagnostic Methods in Clinical Laboratories

Venue: Department of Microbiology, Osmania Medical College, Koti, Hyderabad.

Date: 22-04-2024 & 24-04-2024

Osmania Medical College hosted a two-day hands-on workshop focused on various diagnostic methods in clinical laboratories, with a particular emphasis on ELISA (Enzyme-Linked Immunosorbent Assay), PCR (Polymerase Chain Reaction), and RT-PCR (Reverse Transcription Polymerase Chain Reaction).

The workshop aimed to provide participants with practical knowledge and skills essential for accurately diagnosing and monitoring diseases.

Day 1: Guest Lectures

SPEAKER -1

Dr. Nagamani, Principal & Professor, Microbiology, Government Medical College, Vikarabad.

TOPIC: Applications of Molecular Techniques in the clinical laboratory.

SPEAKER – 2

Dr. Chakravarti

TOPIC: ELISA – Types & Applications

SPEAKER – 3

Dr.V.Sudha Rani

TOPIC: Discussion on ELISA

SPEAKER – 4

Dr. Chanakya

TOPIC: Immuno-Assay Platforms

SPEAKER – 5

Dr. N. Rajnakshatra

TOPIC: Advanced Methods & Tools in Nucleic Acid Extraction.

SPEAKER – 6

Mr. Prem & Mr. Jason

TOPIC: Quality & Quantity check of DNA by Gel Electrophoresis & Spectrophotometry.

SPEAKER – 7

Dr. Srinath

TOPIC: Results Interpretation of Conventional PCR & RT-PCR

DAY -2 Sample Preparations, Extraction

PCR (Polymerase Chain Reaction) and RT-PCR (Reverse Transcription Polymerase Chain Reaction): The second day focused on PCR and RT-PCR techniques, which are fundamental tools in molecular biology for amplifying and detecting DNA/RNA sequences. Participants received comprehensive lectures on the principles of PCR, including DNA denaturation, annealing, and extension, followed by an overview of RT-PCR, a variation used for detecting RNA. Practical sessions enabled participants to perform PCR and RT-PCR assays hands-on, from sample preparation to amplification and analysis. Emphasis was placed on troubleshooting common issues and optimizing reaction conditions for accurate results.

ELISA (Enzyme-Linked Immunosorbent Assay): The workshop commenced with an in-depth session on ELISA, a widely used diagnostic technique for detecting the presence of antibodies, antigens, proteins, and hormones in biological samples. Participants learned about the principles of ELISA, various types (direct, indirect, sandwich), and their applications in clinical diagnostics.

Hands-on training was provided, allowing participants to perform ELISA assays under the guidance of experienced instructors. Practical exercises included sample preparation, plate coating, incubation, and data interpretation.

Highlights:

- Interactions with Expert Instructors: Participants had the opportunity to interact with experienced instructors and ask questions regarding the techniques, protocols, and applications.
- Hands-On Experience: The workshop provided ample hands-on experience, allowing participants to gain confidence and proficiency in performing ELISA, PCR, and RT-PCR assays.

Finally, the two-day hands-on workshop on different diagnostic methods in clinical laboratories at Osmania Medical College was a resounding success, providing participants with practical skills and knowledge essential for modern diagnostic practices. Osmania Medical

College looks forward to organizing similar workshops to promote excellence in clinical laboratory practices.

We the faculty of SNVPMV thank our chairman Dr. B. Prabha Shankar for allowing us to attend a workshop at Osmania Medical College, Koti, Hyderabad.

Attendees:

1. Dr. T. Venu
2. Ms. S. Divya
3. Dr. A. Sujala
4. Mrs. A. Shailaja
5. Mrs. S. Muni Sireesha
6. Leemol Varghese
7. P. Rajyalakshmi Devi
8. Dr. M.Shivaramakrishna
9. Ms. P. Sri Varsha
10. Mr. D. Suresh













